Anderson discloses an alarm system with multiple cooperating sensors. The rejection notes that Anderson fails to disclose an alarm signal including a voltage pulse having a duration less than 100 milliseconds, as recited in claim 1.

Keeler discloses a digital communication system and method. The rejection apparently characterizes the stabilizing interval T, shown in Figures 4-6 and described at column 6, lines 21-25 of Keeler, as an alarm signal including a voltage pulse having a duration less than 100 milliseconds. However, the stabilizing interval T, described as having a duration of less than 5 milliseconds, is not a voltage pulse as recited in claim 1. Instead, the stabilizing interval T is part of a message framing signal bounded by transitions 50a, indicating a message start, and 50b, indicating a message termination. During the message framing signal, a series of voltage pulses 56 can be transmitted. The stabilizing time interval T is provided after the frame start transition 50a and "before a message starts." See column 6, lines 21-25. Therefore, the stabilizing interval T is not a voltage pulse as recited in claim 1, but instead is an interval provided before transmission of a message.

Therefore, neither Anderson nor Keeler discloses or suggests a method of communicating multiple hazardous condition alarms including an alarm signal having a voltage pulse having a duration less than 100 milliseconds, as recited by claim 1. For at least this reason, claim 1, as well as claims 2-11 that depend thereform, are allowable. Reconsideration and allowance are respectfully requested.

Claims 12-19 were also rejected in section 2 of the Office Action under section 103(a) as unpatentable over Anderson in view of Keeler. This rejection is respectfully traversed.

Claim 12 recites a hazardous condition detector including a microcontroller. Claim 12 recites that the microcontroller determines a first alarm condition upon receipt of a pulsed input of less than approximately 100 milliseconds and a second alarm condition upon receipt of a DC signal. Claim 12 further recites that the microcontroller commands an alarm circuit to generate a first alarm type upon determining the first alarm condition, and to generate a second alarm type upon determining the second alarm condition. A detector configured in this manner is advantageous so that a microcontroller of the detector can receive an alarm condition from other detectors and generate an appropriate alarm type depending on the type of alarm condition. See, for example, page 11, lines 6-28 of the present application.

The rejection characterizes Anderson as disclosing a microcontroller that determines a first alarm condition and a second alarm condition and generates a first alarm condition and a second alarm condition, citing column 3, lines 3 and 56-67, and column 4, lines 1-11 of Anderson. This characterization of Anderson is respectfully traversed. Although Anderson does state that sensors $S_1 \ldots S_n$ can be smoke detectors, gas detectors, carbon monoxide detectors, and heat detectors (see column 3, lines 61-65), Anderson fails to suggest a microcontroller that receives first and second alarm conditions and generation of first and second alarm types, as recited in claim 12. In fact, Anderson fails to describe a communication protocol at all. See column 4, lines 1-3.

In addition, as noted above with respect to claim 1, neither Anderson nor Keeler discloses a pulse of approximately 100 milliseconds. Therefore, neither suggests a microcontroller that receives pulsed input of less than approximately 100 milliseconds, as recited in claim 12.

For at least these reasons, the combination of Anderson and Keeler fail to render claim 12, as well as claims 13-19 that depend thereform, obvious. Reconsideration and allowance are respectfully requested.

In section 3 of the Office Action, claim 20 was rejected under section 103(a) as unpatentable over Anderson in view of Keeler, and further in view of Klein et al., U.S. Patent No. 3,872,355. This rejection is respectfully traversed.

Claim 20 is directed to a distributed hazardous condition detection and alarm system. Claim 20 recites that the system includes first and second hazardous condition detectors, and a 3-wire interconnect coupling the first detector to the second detector. Claim 20 further recites that one of the detectors is operable to generate a multi-bit alarm message on the interconnect to indicate the detection of a first hazardous condition, and one of the detectors is operable to generate a constant DC level on the interconnect to indicate the detection of a second hazardous condition. In this manner, different signaling schemes can be used with conventional and intelligent detectors to differentiate between alarm conditions.

The rejection notes that Anderson fails to disclose a multi-bit alarm message, a constant DC level, and a 3-wire interconnect coupling the first and second detectors.

The rejection cites Keeler as disclosing a DC voltage level at column 5, line 8. However, the DC voltage level disclosed in Keeler at column 5, line 8 is described as a high DC voltage positioned between message intervals. The DC voltage in Keeler is not used to convey